

Front

1998. Central States Field Trip  
May 29 - June 16

Book 1

Thank  
You

IPAR.003199

1. Nashville, TN
2. Georgetown, KY
3. Cincinnati, OH
4. Marion, Ill
6. Dubuque, IO
7. Decorah, IO
8. Mitchell, SD
9. Rapid City, S.D.
- ~~10. Billings, MT~~
10. Missoula, MT
12. Spokane, WA
40. Billings, MT

Locations from Holland & Patzkowsky <sup>①</sup>  
p. 258. B. - Bailey section. Fernvale &  
Bailey Parkway } Sequatchie Fm

p. 258. VV. Vietnam Veterans Highway  
ca 200 ft of section. From top of middle Ord  
into "Henderville Sh." Leipers Fm, Anaheim Fm  
& Fernvale / Sequatchie Fm ✓

p. 258 Springfield Hwy. SH.  
V. high Fernvale / Sequatchie Fm ✓

p. 7W. Peyton's Warehouse. Anaheim Fm.  
Bottom X-bedded ss. succeeded by  
peckstone. ~~? Is it a long RR at~~  
Goodlettsville. located ✓

CV, WPM are all in same area along  
US 231

Log 9. Ashland City Pike

St. Hwy no. 12

see p. 89 Wilson (19 )

for Section beneath

Cumberland R. bridge ✓ checked this  
+ p. 90 at Tordonia out

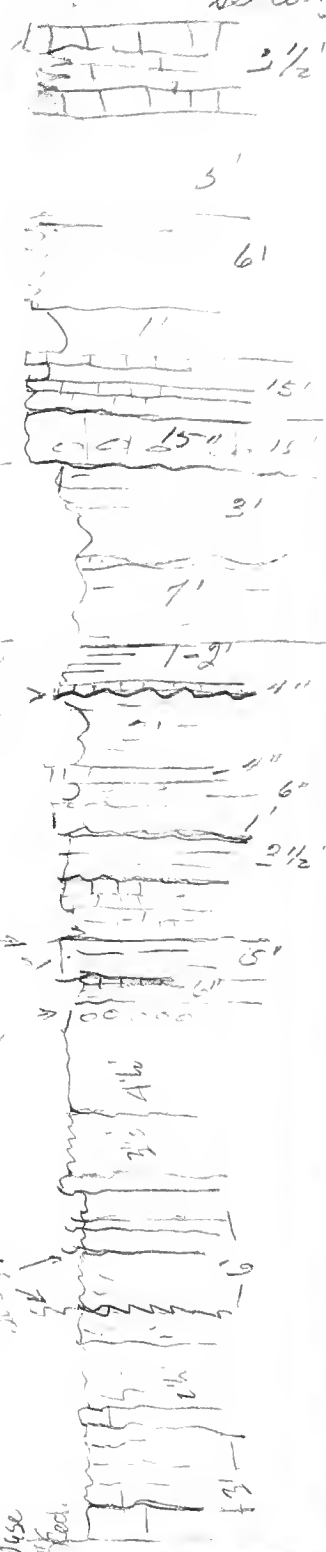
97.5

Basslet, R. S. 1932. The stratigraphy of the  
central basin of Tennessee;  
Nashville, Tennessee Division of  
Geology, Bull. 38, 268 p.

\* Review of 3rd Conference ... (2) ... 258

48 (3 p. notes)  
 5/21/11 (15) Stop 1 (1)

221m  
 total  
 section



fine - viscous  
 v. fine

cr. m. m. m.  
 radial br. m. v. rugged  
 lying  
 lt. gray conglomerate

gray  
 4" red

2. to 100'  
 4"  
 fossiliferous

v. shaly ls  
 white gypsum nodules  
 white gypsum nodules - upper

bricks, lry

C1  
 7' to 10'

Part 2

base of bed

From H & P (1997). J. Sed. Res. v. 67, p. 263  
Vietnam Vets Highway. Series of roadcuts  
on both sides of exit ramp from TN 386  
(V.V. Parkway) onto ~~the~~ US 31 E. Goodlettsville  
TN. Quad  $36^{\circ}18'N$ ,  $86^{\circ}39'W$ . Additional  
roadcuts just west & east of exit  
ramp along TN 386. lowest part of the  
section exposed at roadcut on

Chuck has measured about  
105 ft.  $\approx$  32 meters

but Holland & Pafzhowsky, 1997.  
have 152 m at Vietnam Veterans  
highway intersection.

(3)

May 21, 198 - Stop 1-B (2)

view looking from south to d. by N. 1/2  
- There is covered section between loc.

Stop 1 and base of Stop 1-B

Section 5, Upper H. ... 1-B  
(2) ... from H. ...

... 1 mile ...  
... 1/2 ...

???

Plutonic

... (fossiliferous)

✓ ... fine ...  
... color ...

(? MFS) ...

... same ...

... 2' ...

... 1-2' ...

Arnhem

Massachusetts ...  
... (Cretaceous) ...  
... coll. 5/29/95-A ...

Playa ...

LS, ...

... fossil on ...  
ripples

Covered 15-18' ±





3/29/98 - 203 2 (3)

(4)

Kapsar Way is a short service road between warehouses on the east and US 41 + TN 11 on the west. It lies just east of I-65, 1.7 miles north on US 41 from Goodlettsville city limits.

"Pegon Warehouse" is out of business

Kapsar Way is a short service road between warehouses on the east and US 41 + TN 11 on the west. It lies just east of I-65, 1.7 miles north on US 41 from Goodlettsville city limits.

marked as to

C5

Hollander is the SB/TS, but I don't see cond

C4

(I don't see but "ball & pillow" structures here either)

... was str...  
... space ...  
... is quite even, 3"-4" ...  
... not ...; caution these thin beds across outcrop  $\pm$  100 yards

MFS?

light gray

ferruginous beds

3 sets - 8 in X bed sets  
+ 2' thick

C4 Calcareous X-bedded gray stone

(at base) Crinoids with rounded

C3

modular packed, shaly

Layer

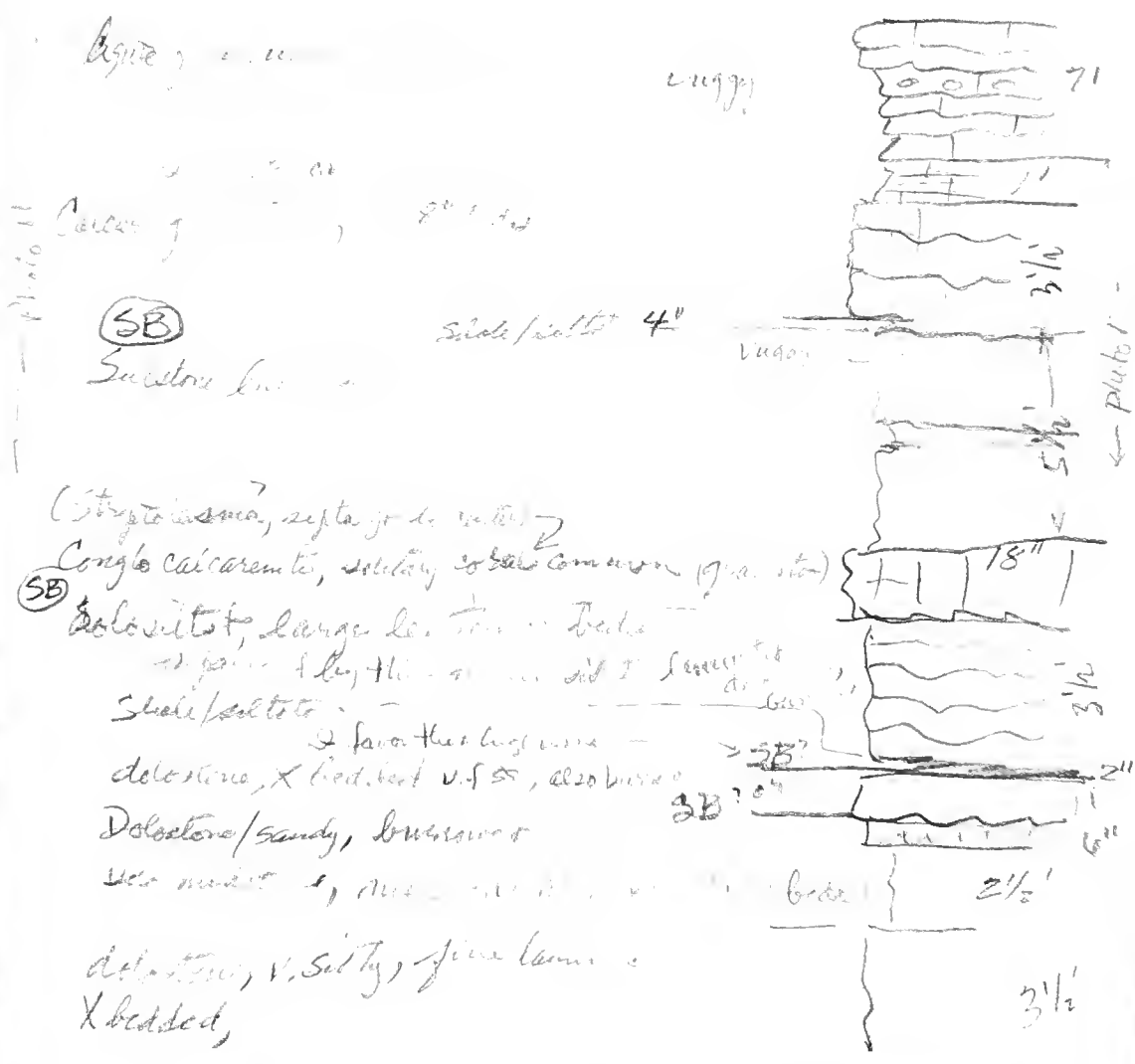


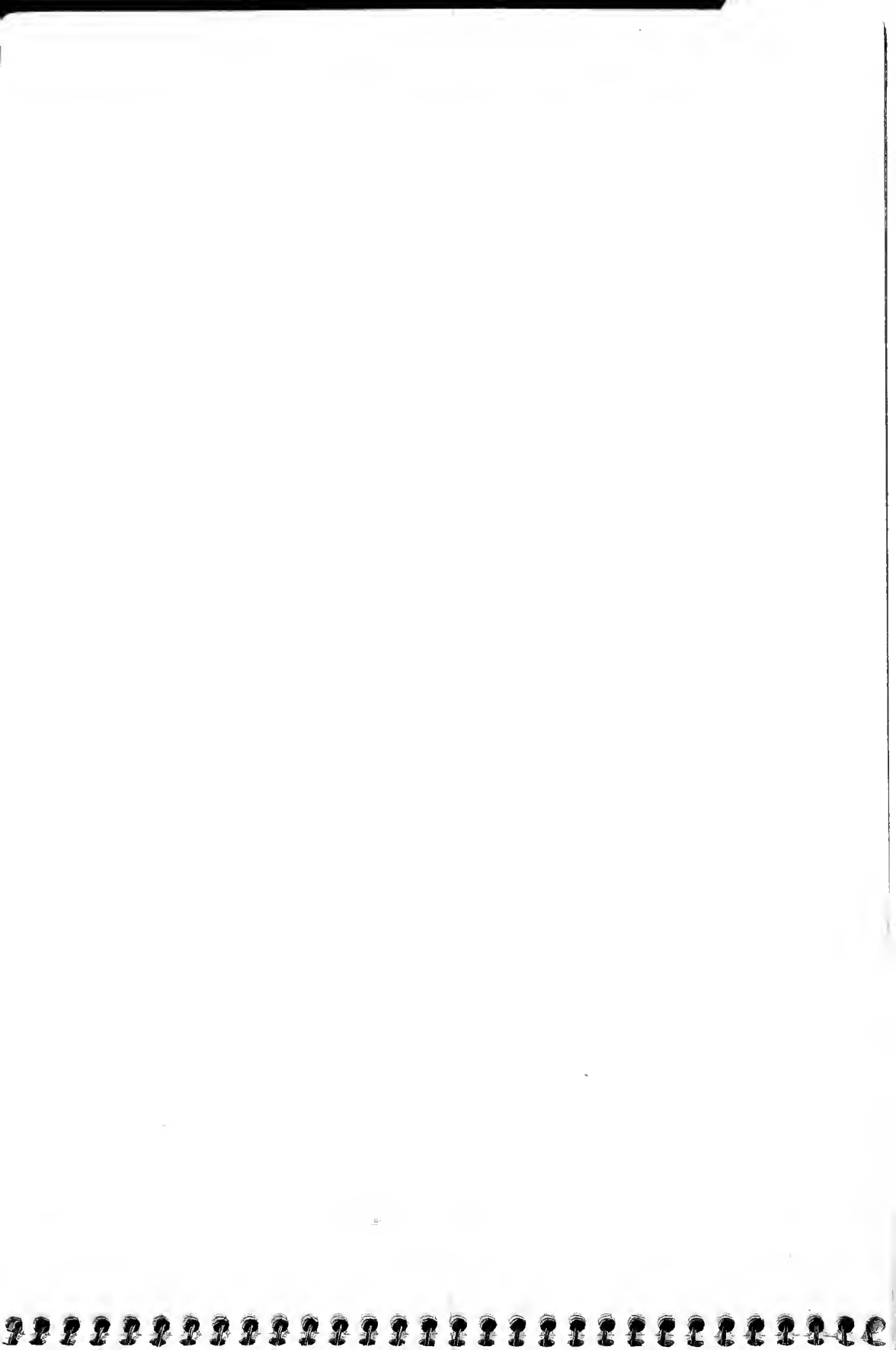


5/29/78 - Stop 3 (4) Springfield Region,  
 0.5 miles north of <sup>Springfield</sup> Lebanon, Tenn.

(5)

This is about 1 mile to 1.5 miles north of Kylesburg Way  
 on U.S. 41, north of Goodlettsville, TN





(6)

Saturday, May 30, 1998.

③ Went N on US 24 to US 440 W ~~to~~ on  
US 440 W to Dr. D.B. Todd Bl then joined  
Clarksville Pike (US 41A + Tenn 12) on to  
Cumberland R. bridge. N. side of  
bridge Chuck took a track at trig  
station box down to outcrops of admic  
limestone below Mt. Long bridge (about a 1/2  
stream side). M. is red, fine to  
medium grained, with some  
tubes showing on at least one face. May  
about 10' base - even at base.

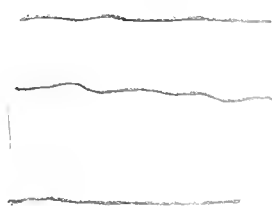


Sat. 5/30/98.

⑥ West of Cumberland Bridge off Clarksville Pike, <sup>down 2 streets toward river, ca</sup> 200 yards downstream from bridge location - substation in a residential area; see section below

See Wilson, p. 90

... ..  
... ..  
... ..  
partings



in ... ..





5/30/98 contd

p. 90. Wilson

1. Tordonia / Eaton's Ch Rd. Ok on hill in private property. Did not pursue. V. weathered

2. ~~Just west of~~ <sup>down</sup> Nentry camp of TN155-

⑦ Briley Phwy at TN12 (Ashland City Pike)

≈ 2.5 miles west of ML King bridge (TN12) over Cumberland River

LS pale

LS dark gray, Vaggy concretion, gygen. nod.

LS, dark, silty, nodular + i. in

out  
core  
hole

24. white ls. bed

15

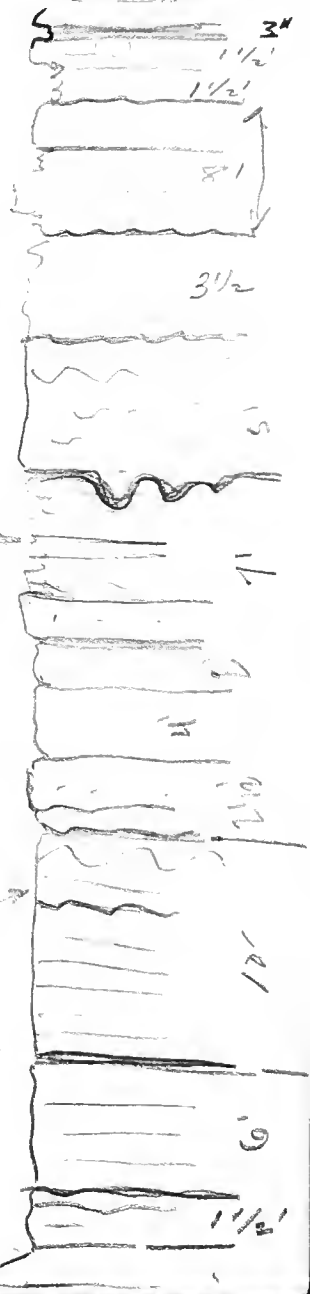
2 1/2" - 3" Siltstone

Calcareous, nodular, with lenses of  
siltstone

Silty ls., nodular beds in part. alt. siltstone + packst. (red diplostr.)

2" dark gray silty shale  
red calcarenite, some lenses of  
marstone, packstone + b. concretion

brach. concretion at top  
dark calcarenite. Packst.





5/30/98

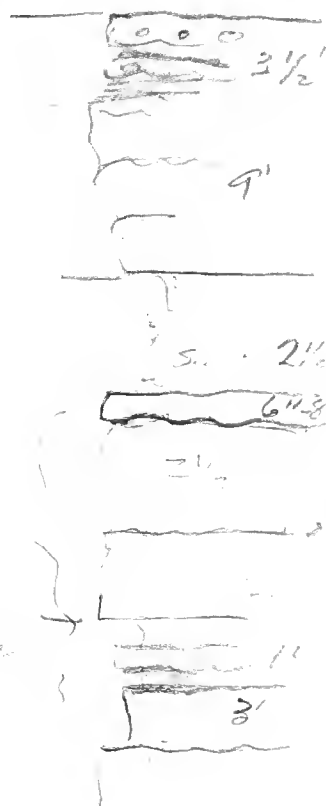
(9)

⑧ Clarksville like at Briley Hwy (TN/55)

Section measured on SW corner of  
cloverleaf; <sup>east</sup> south bound

off ramp - H+P's locality, <sup>gyp</sup>  
~~junction~~ (this is junction with US 41 Alternate)

see next page



... to ...

Calcareous ...

but not ...

lt grey calc. siltst - massive ...

... siltst ...  
... at top, ...  
... some gyp ...  
base,

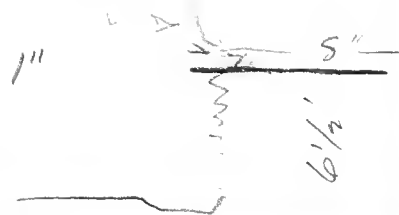
...

Calcareous - coarse, ...

Siltst ... TS'

Siltst, v. fossil, nodular ...

brachs, bryos common ...





5/30/98

(L1541A)

(TN 155)

(10)

Clarksville Pike & ~~Briley~~ Briley Pk. section continued

from previous page

5 pictures here -

We think this was Holland & Patzkowsky's (1997) p. 258 Briley Pkwy section. However, a lot more section is exposed than shown by H+P.

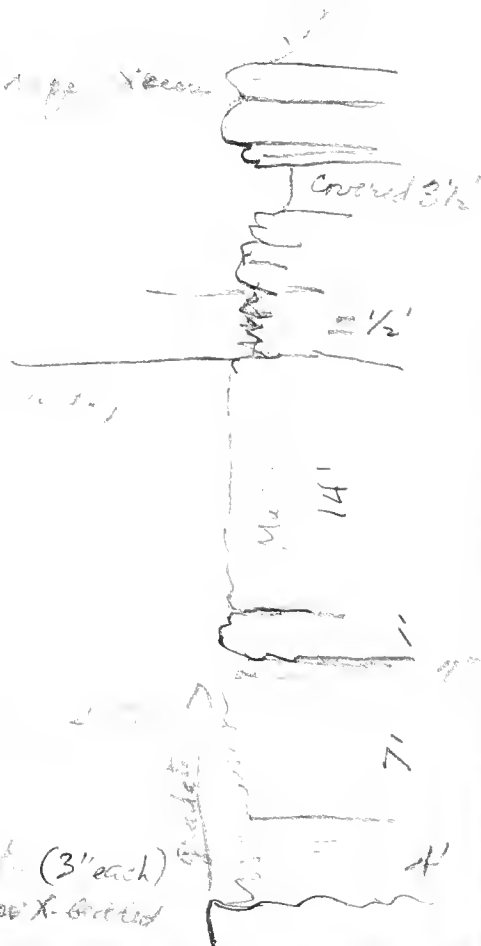
Top

→ Holland & Patzkowsky - - -  
(1997, p. 258, Briley Pkwy)

Calcareous, massive, granular & fine

Silt + fine sand

at base of section



Calcareous, massive, granular & fine  
silt with gyttja

Silt + calcareous (3" each)  
calcareous, silted + mottled with X-bedded  
troughs



5/30/14

Wilson (19) locality

(9)

Shoreline on rubber ... to ...

pretty much on edge of ...

cut ...

Bigby L.S.)

don't know ...

beach) 91

... ..

(photo)

... ..



10,000 ... ..

... .. (11)

photo

1. ... ..

behind School ... ..

... .. 27 ... the Bigby ... ..

... ..





12

See over page

(next locality  
see page 14)

Bakers Station section. (Wilson loc.)

Nashville Airport (Holland & Patzowsky  
\* E. side rd. Fresh cut loc.)

Step 1 \* E. side rel. Fresh cut  
rel. to W. side

North bound off ramp to <sup>ret. to W. side</sup>

Int. Nashville Airport  
Measured exposures on E Side

Quercus foveolata (detw.) Woodw. & B. det. W. H. S. et al.  
2' line

$\frac{1}{2} \frac{1}{2}$       $\frac{1}{2} \frac{1}{2}$       $\frac{1}{2} \frac{1}{2}$

Sett, Light gray, of crs. near m. h.

Liberty

Continued next page

Die Länge  $\approx 17.3$  (ps) = 17.3 Sekunden (Kommastrich), die

3" to 3" bands, by. 11 to 1 1/2 in. in.

f. 50. 227 -

(= Cards: 5th Nov)

2. mit: 100.000 / 100.000 = 1

kg, well-banded 7 3' 10.

a. g. alv. et n. melior.

5:58 AM - 6:00 AM

highest 1/2 is a calcareous, with salt at depth

Is, bed 3'-4' "Ck carbonate, ~~massive~~, x-bed

LS, v. 8 gram + jacket for ... .. the structure

three calcareous nodules in the shell, & filled

Belcoman 28/1/94.

practice of war.

stygolite

Carter

4

17

16.

11

53

19

10

7

16

\* It may be that E. side of road had been widened &  $\therefore$  presented a more unweathered section in comparison to W. side which was not as complete at top of section.

5/31/98

(13)

Nashville Airport  
 Donelson Pike, north bound exit.

Continued from p 12

not a fossiliferous  
 limestone at this level  
 Disconformity  
 conglomerate below

SB

top of road

2 1/2'

Calc. ss, burrowed

Calc. ss, silty, silty ss

Calc. ss

plaster

Ang. ss, 1/2" in

1/2"

1 1/2'

24"

Calc. ss, silty, laminated, some porosity, staining  
 of beds. X seen in this section, wing bedding



5/31/98

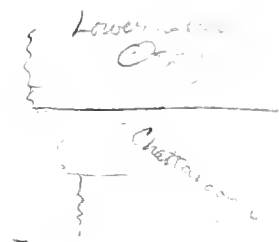
(14)

Baker sh. in Rail Road cut. (Stop 2)

(11)

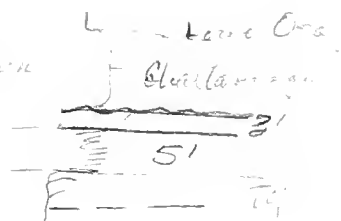
Northwest of Jocasseeville — The Baker sh. in Road cut crosses the road. (US 11) about 2.2 mi. north of Jocasseeville. Turn west for about 3/4 mile to railroad crossing. Park at tracks on north side, 105 mi. Three railroad cuts expose. Usage down to (1963) road; east of here also about 1 farther S.S. to a 4th railroad cut.

part of



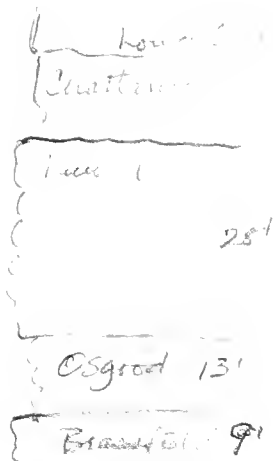
first cut south (175' south)

625' exposure along train  
Log  
fossils (reports) we found  
Laurel



2nd cut south (600)

(Wilson's fossils)  
two fossils



Continued on next page



Baker Station cont. 1

3rd cut. (1550' southeast of cut 2)

350' long cut

Top of cut -

we did not reach overtop  
that is good (Brass. fossils)

{ Brassy 1 CB

9'

- ① Ls, irregularly bedded, silty,  
fairy well sorted

SB?

12'

2 Siltst. - thin bedded, some coarse in 4'-8" beds

Ls, massive, X-bedded, coarse calcarenite,

2' thick, lower 2' in local ls,

*Synsphyrogonia*, *Herbertella*,  
*Rafinesquina*

5'

SB

Shale + siltst.

1.5' siltst

1.5' siltst

23'

- 3) Shale + mudstone

Shale + siltst.

thin bedded

disrupted siltstone

- 4) *Strophomena* - a coral bed

SB

*Rafinesquina* (?) or *Strophomena*

3 1/2 - 4'

- 5) Siltst, - bedded  
thin siltst.

bed of R. cut

not well exposed

50'

- 6) Arnheim





Aug 16

June 1, 1990 - Santa Monica

1.2 miles west on US 412 from intersection with US 31  
at Columbia, Tenn. - Stop 1 (12)

See also p. 58

West of Columbia, Tenn. & TN 11

US 412 is a by-pass route around north of Columbia.

Ls. conglomeratic

SB:

Ls. burrowed upper surface ruffled up and has a chert  
band (a micritic) yellow chert bed  
coarse to fine calcarenite, wacke. fritted mic.

Ls., calcarenite and pack/wackestone.

3-6" beds

5  
photos  
here

Chert nodules

Ls., dolomite. Ant. burrow tips  
are sandy and ... out as Vag.

Ls., very burrowed, wackestone + packstone &  
calcarenite, ...





6/1/98

terminum

stop (13)

1.2 miles northwest of overpass over TN 50

1.2 miles northwest of overpass over TN 50

Theresa Coleman Nelson of Holl. & Paton, 1997, p.

1.2 miles west of junction of US 412 and Tenn 50 on US 412.

dark gray to black shales  
& siltst.

did not find H+P:  
HST units

30-34' - 40' (estimated)

formation

3' - 4' siltstone

4' - 5' sandstone

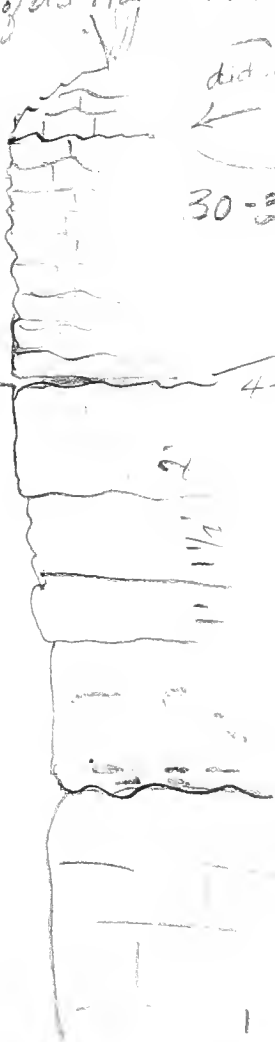
4-5' sandstone

top bed of Carter sandstone

Lower Carter (no upper Carter)

Cherty, particularly in  
lower 1'

Chert and



Monday Jan 14 Exit 72 - New York  
1/14/71

14

It is not a ...

new ...

... 7 ... 5 photos.

V.S. ... abundant form ...

Collect. 6-1-98-B

(mfs?) -> 2" brown ...

Shale ...

Shale

Ls, mfs, ... 2 1/2 ... SB?

micrite

1' - 3' ... Ls clean ...

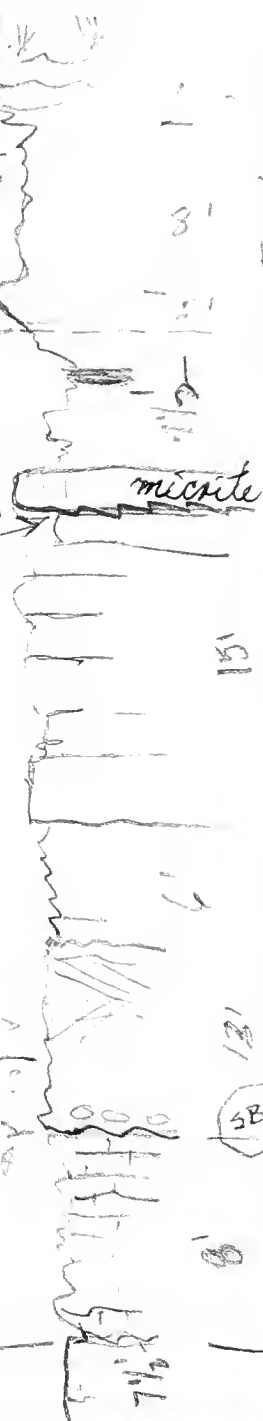
... brownish

Ls, ... some clay ...

Coll. 6-1-98-A ...

Silty Ls, ... phosphatic ...

Ls, ...



H+P 97 place a SB <sup>(mudstone)</sup> in the micritic bed, =  $\frac{M6}{M5}$ , I  
suggest that the micrite is a max flooding unit, and  
the SB is either at the base of the micrite or (and) about  
34' below in a conglomeratic ls.

5-1-78

at IN 313

U.S. 65 EXIT 32 1/4 P 1777, P1  
(middle Lebanon Ls) (15)

Ls, ledges irregular, brownish gray,

Coll. 6-1-98-C Reef & ... , ... , ... , ...  
D. ... , burrowed

Coll. 6-1-98-D

1 photo here

Ls mudstones, siltstones, ... silt layers

siltstones, light gray, green  
large ... burrowed

Ls, w, p, g, in 4-6" beds, ...

lt gray siltst, wuggy, small

Ls, light brown-gray, irregular 2" beds, have  
quite white spheres (???)  
... fairly ...

Ls, ... and siltstones, ...  
...

9 1/2'  
4 1/2'

12'





2 1/2 miles NW of,

Oil mill

(20)

on Tenn. #17, Lewisburg, Tenn., SW of junction

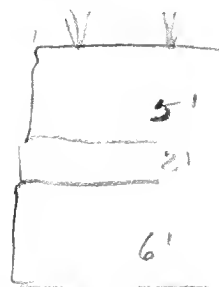
US 431 & Tenn. SD.

(16)

(14 ft. thick red clay shale)

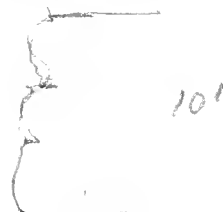
upper

Ls. in west, massive some X-bedded, laminated in bedded



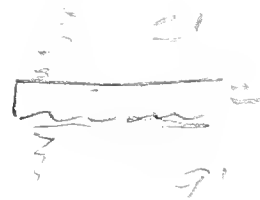
SB-7.

Ls, calcareous v. micaceous, some X-bedded

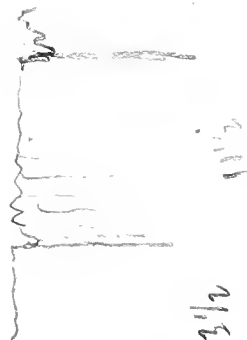


more silty

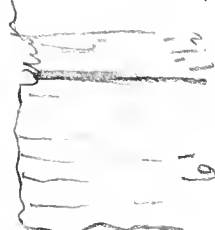
Ls, sandy calc., irregular & l. & some silty



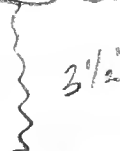
Ls, mic. p/g?, some silty



Ls, silty, some brown and calcareous



Ls, silty & silty



H+P 97 close a SB  
See notes on back of page

Apparently H+P consider the X bedded as a sedimentary bed  
as T track, <sup>well</sup> those beds <sup>could</sup> equally be interpreted as  
at HS

4,2/8 Tom 540 - u

(17) Found ... about 1 1/2 mi  
SW of next stop which is H-P 'V' - This part is  
repeated in H-P's 97 'Central Valley' section.

Tenn.

LS.  $q/p$

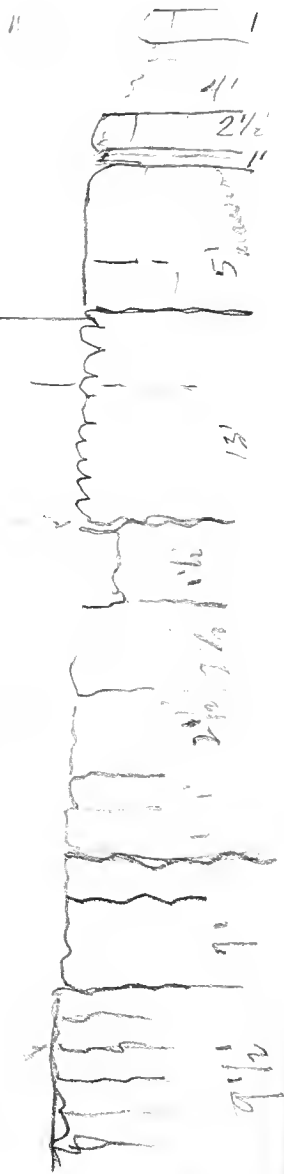
LS, m, w, some silt stringers near middle and below  
dark gray, blk chert nodules in lower part.

centered 7 2" —  
underneath barrow, on 10'

8/15/57 Gast Orthodontist

are given  
L. acuticula. (under) L. wood, the last

Cell. 6-2-98-A *Keep and file in [unclear]*  
*Cell 6-2-98-A*



20

100



6798 Stop 2 H+V's "QV" section, on TN840  
 (18) about 0.9 miles S of ...

sandy, silty ls. - 2'

ls, similar to ... well bedded ... 4'  
 m/w ...

ls as before

ls ... sand ... stringers,  
 internal ... dk ...

calcareous  
 irregular

ls. nodular m/w, silty bands,

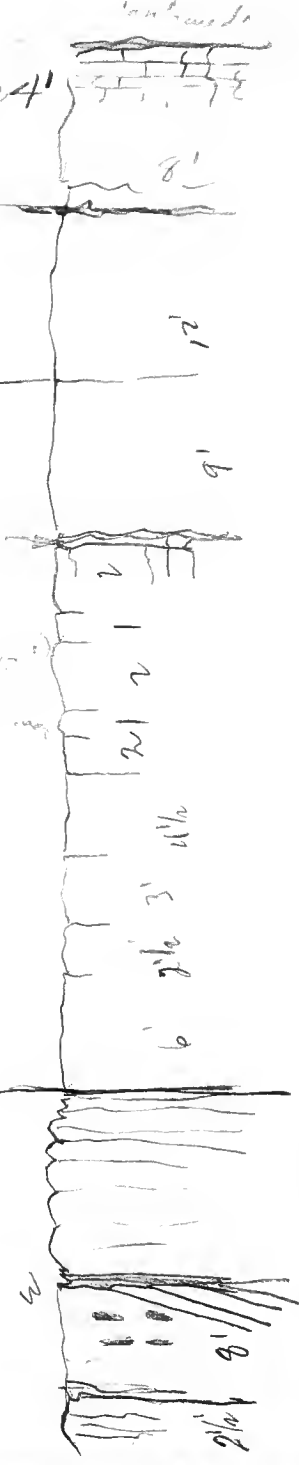
many lt gra. horizontal ...  
 in upper ...  
 the upper surfaces.

1" salt ...

ls. bedded fine ... frag. fossil  
 clasts in lower ... 2-4" beds,  
 interbedded with lighter silty ...

ls. laminated p/w ...  
 no gray

ls, w/p, silty ...





6-2-98 - Stop 2 continued

LS section

LS, massive browned up

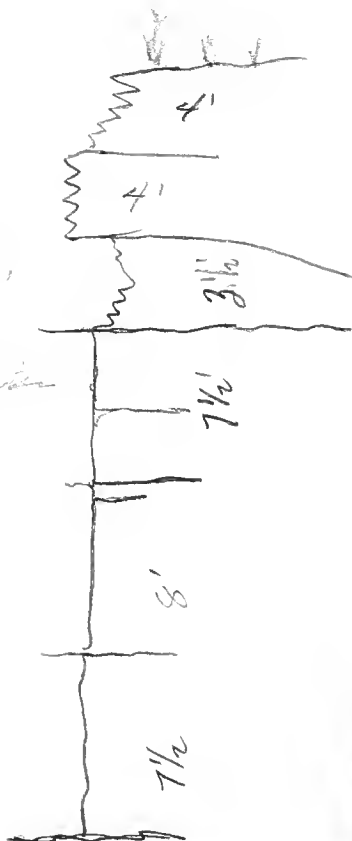
LS, v. silty, shaly nodules, a cone, 80 m line,

SB  $\frac{M3}{M2}$  of P+H 97. →

LS, massive, w/m with distinct fill of section  
and v. f sand (concrete!)

(H+P 97 call these 3" beds "pencil  
grainstones!")

more  
lighter gray  
than beds  
here



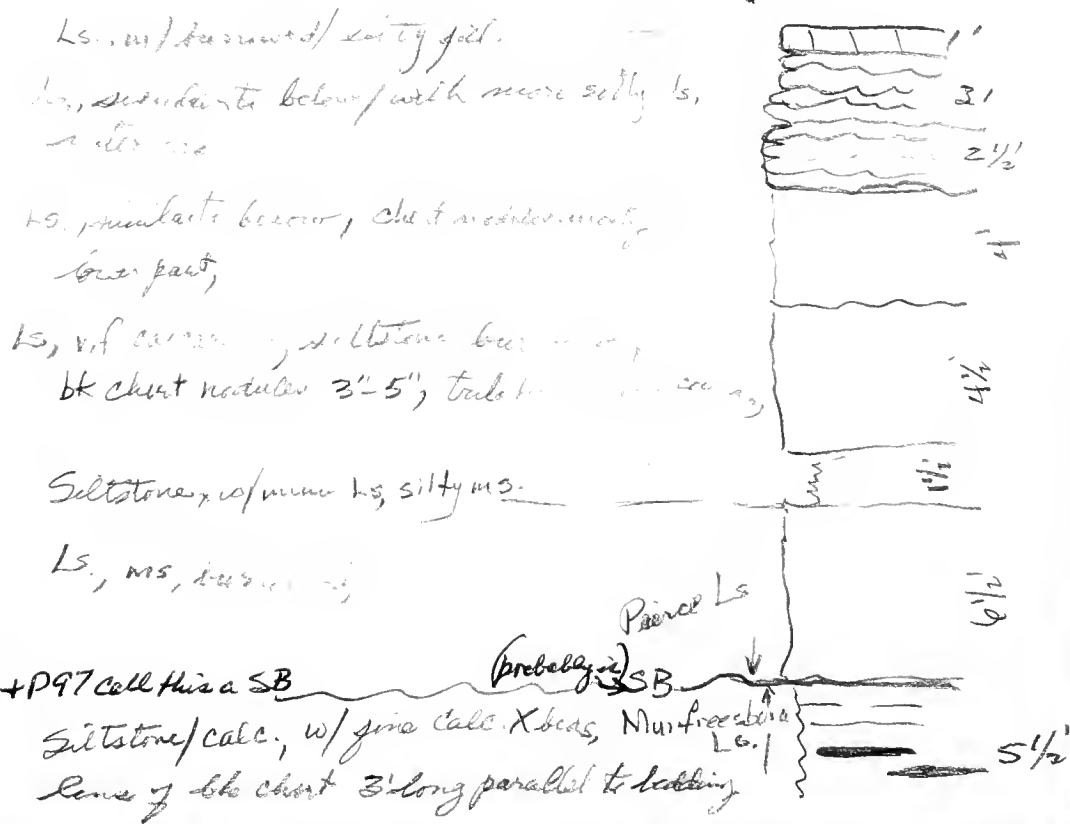




6-2 78 Stop 3 Lascasas, H+P Locals

- (19) Road cut on TN 96 <sup>(northside)</sup> just west of junction with TN 266  
(This is northeast of Murfreesboro on TN 96) (about ~~2~~ 8 miles)  
(opposite gas station)

Photo of Clarence Shale thin





(6-3-98 through 6-5-98; car repair)

(25)

6/6/98 = 1/2 mile east, D.

(20)

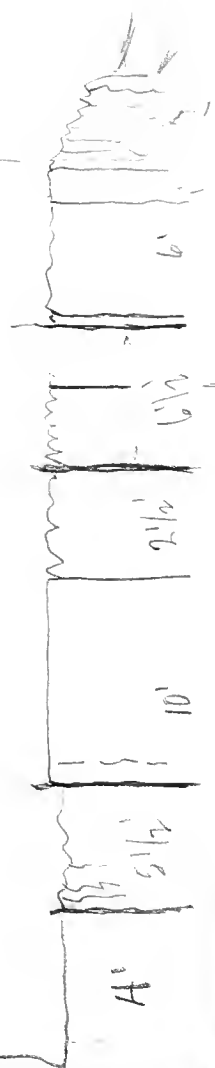
point out 45705

LS, m. edge, curved, no waves, filled with r. sps. -  
the net is wavy, but long, top-up, etc. of mudstone

LS, w, an. sp

LS, m. edge - no waves,

2-3' bed



LS, m. edge, in ...  
pressure

LS, m. edge ...  
after 1" cur. Vays

2-3" bed, 1/4" green shaly, so. lat. bed log break

LS, muds w/ wave stone filled ...  
mudstone



6-6-98

(26)

U.S. 25 at Ripple Creek -  
West side of creek. Section illustrated  
is from creek up to road cut

(21)

2 photos - 1 of str. & 2 in ch cut incl. unconformity

Collection 6-6-98-A

LS. calc. p/j, and mudstone  
outcrops - small ptychopores, and  
mudst. burrows 2"-3" below surface

LS. mudstone, calc. up then to shell bed, and  
fossiliferous, mostly detrital, 3-4 ft. R. p. detrital  
beds - R. p. detrital, a concretion  
is found on surface

LS. similar to above, but more fossiliferous

- mostly large ostracods, R. p. detrital  
- Calc. fossiliferous on most of surface

LS. mudst w/ pebbles of rip-up mudstone, on mudstone, mudst.  
burrows, burrowed mudstone

LS. coarse calc. with pebbles, greenish, 6" + ripple at base  
rip-up clasts from bed below

LS. burrowed mudst, 3" x 1" beds,

LS. burrowed w/ m/ - 1' ladders



Creek



6/6/98

(22)

Carron Fork locality. Road cut on  
just east of Cannon Co. line both sides of road

(27)

Fig. 1 west

3 Photos.

(3 overlapping photos)

Ls to ...

Flint + clay-bar

Ls ... mic. ... full ...  
... ..

Ls, ... gray mud, ... full ... with darker,  
v.f. ... ..

Siltst, ... gray, (more ... ) 3"-8" bed ...

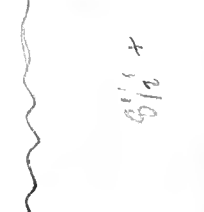
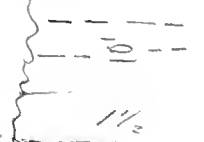
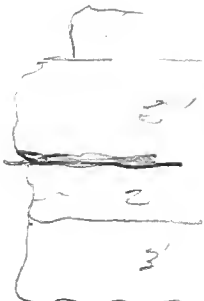
Ls mud, ... .. 1'-6" ...

... med ... (p), 2 ...

Ls, ... .. 2-3" siltst

Ls, p/g, ... ..

wavy, 1-2' ...



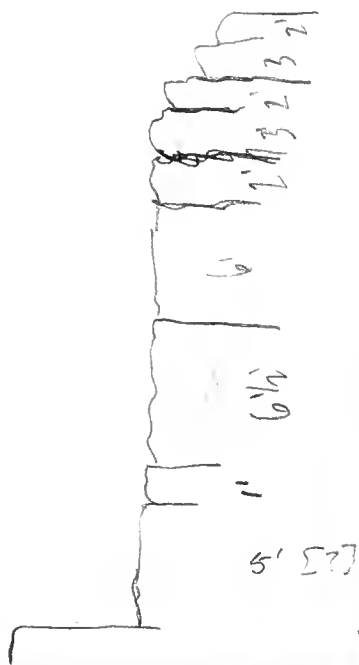




6/6/98

(28)

3.000, 11.27





6/6/98, Hollister, & Locality, 1150 1997, p. 257.

M4 + M5 part of section (23)

On Rutheford Co line

Ls. m, burrowed, with ...  
... /9?

burrowed m/s, ...  
- lines

bedding surfaces  
1/2" ...  
in and ...

burrowed  
X folded & partly  
burrowed

Ls., burrowed m/s



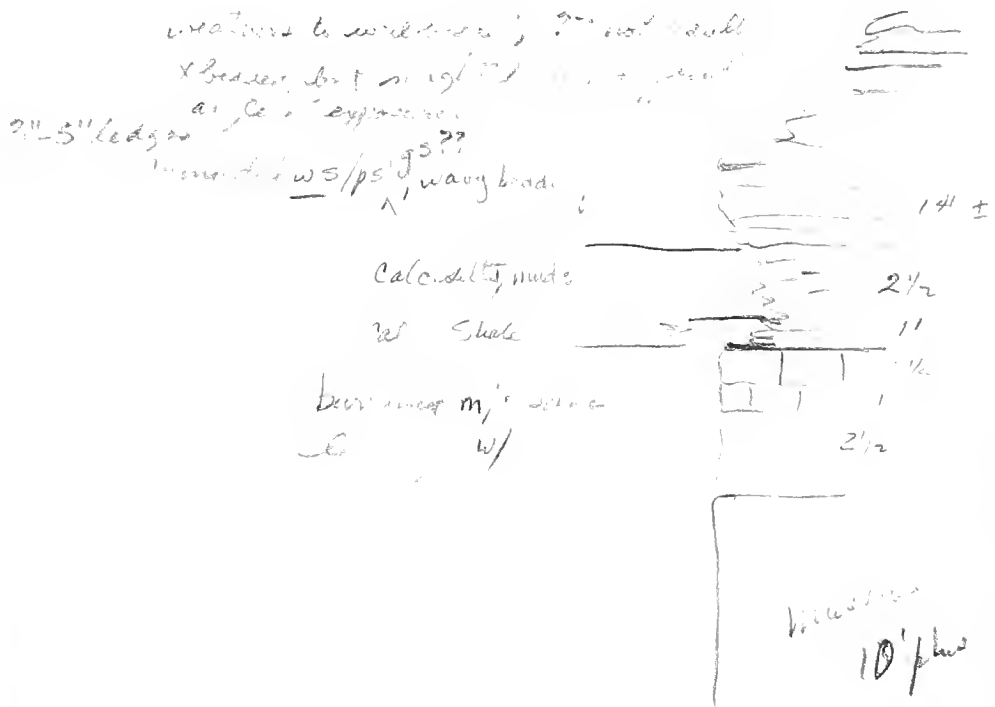
2 photos



6/6/98 Old Woodbury Pike / Cripple Ck Rd  
 (24) West end of Readyville Rd & junction  
 with US 70S.

Photo above otes on p. 29  
 (lunch stop)

(30)





6/6/98

Mile post 4

(31)

US 70 S 4 miles west of Woodbury

(25)

Photo - 4 miles west of Woodbury

2b)

US 70 S 4 1/2 miles west of Woodbury

[+ Photo to 6 1/2 miles west of Woodbury]

cut;

Photo in 1/2 N of Dakota

Photo - 1/2 N of Dakota

Photo - 1/2 N of Dakota

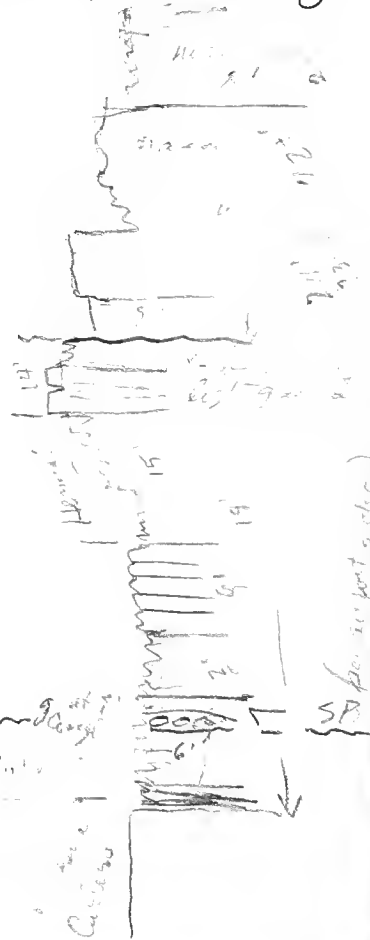
about 1000 ft. above base

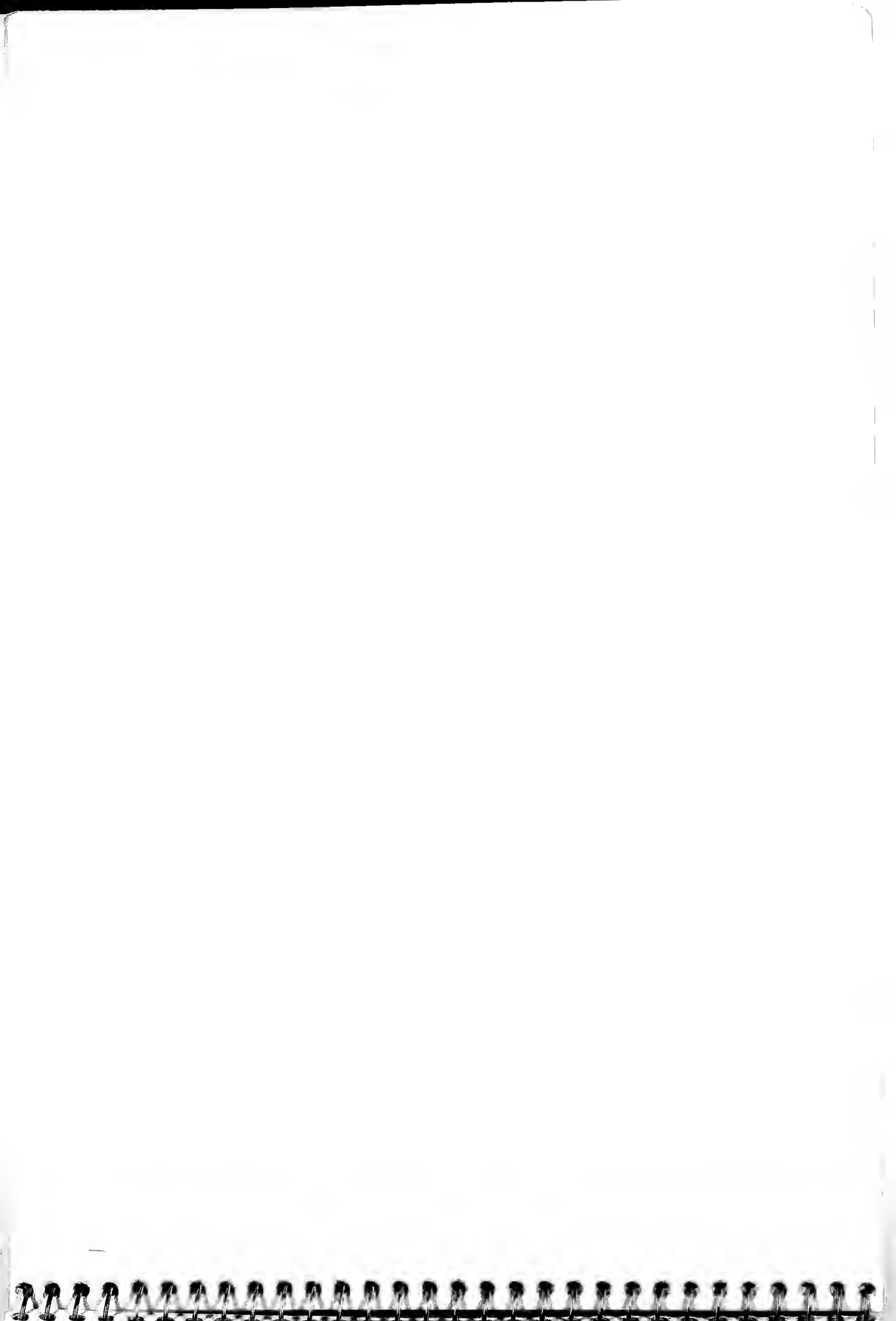
LS, calc. silted, sandy m/f, with some green, purple, etc.

silted sandstone

plenty of shale at base

fractured sandstone







(32)

6/6/98

Snow Hill on US 70 near Dwelltown

Dry Cr Rd  $\rightarrow$  Old Snow Hill Rd  
off US 70. about  $\frac{1}{2}$  ml east of  
Dwelltown. Old Snow Hill Road is  
part of the old abandoned highway  
It curves around hilllope; is  
overgrown. It enters the "new" US 70  
at 2 places; 1 at the bottom of hill  
& the other at the top of the hill

See p. 31. We have ~~1~~ photo~~s~~ - need  
to locate field location  
CR thinks ~~they~~ <sup>it</sup> ~~were~~ <sup>was</sup> before  
Snow Hill (Prints ~~have~~ <sup>have</sup> been  
labelled as pre-27)



6/6/98 H+P 1997, Bluff Creek Locality  
(27A) on Term. 53, 2 miles north of I-40 -

5 or 6 photos.  
(New road cuts - v. impressive high cuts)

dis weathering only surface -  
M. size 4" ±

8"-12"

1 photo Dingo  
2 photos of cut face

Ls. ms/wa, lenses - w/ps;  
not much weathering  
gray shale  
Decks

Ls.





Tanglewood  
27B (27B)

6/6/98

ps/gs and ws 6"-2' beds

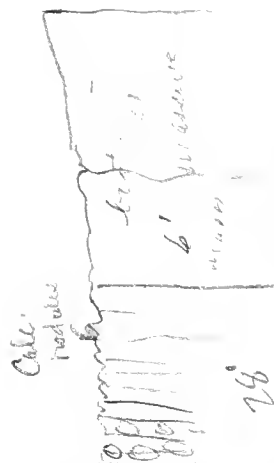
ripple bedding

19  
thin bedded ps. & silt ps

lt med gray

1/2" blk sh. part  
L. gray, tan silt, v. calcareous,  
ws/ps "flowing"

Lower 8' to wavy bedded wackestone  
lt med gray

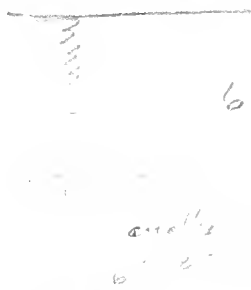


Lower 8' has mud cracks  
X bedded, to ESE,

See page 23



Silly shale in the ls.  
bedded; ...  
SS well ...  
'mud' ...



Silly shale to ... / area  
p/h



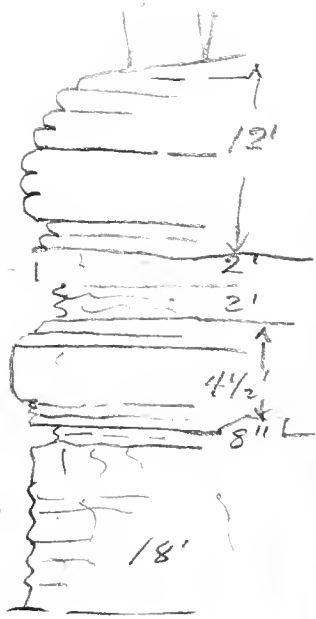
top

well bedded w/p

m/w

lt gray, silty bed

us/ps, and ... at top





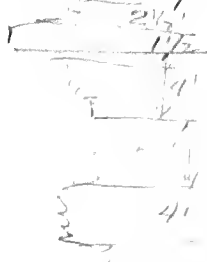


6/7/98 - "motel" photo - Hermitage Fm, TN (36)

6/14/98 - glauconite, 13' H+P 10-7, p. 2.7+ "2"

(28)

notes on ...



S. 10' 6'



1" FeO<sub>2</sub> band

X-bedded calc. arenite p/

This bed thickens + thins to "3" less to 10" calc. arenite up  
v. setting, weathering of thin calc. arenite + calc. silts

more calc. arenite p/, 1' beds wedges in 1/2' channels of calc. arenite.

broken into calc. silts + shales, p/ calc. arenite p/



FeO<sub>2</sub>

change to ...

2

About 14' large ...

X-bedded calc.

6"-1' relief on top

1

2" db. from top, red calc.

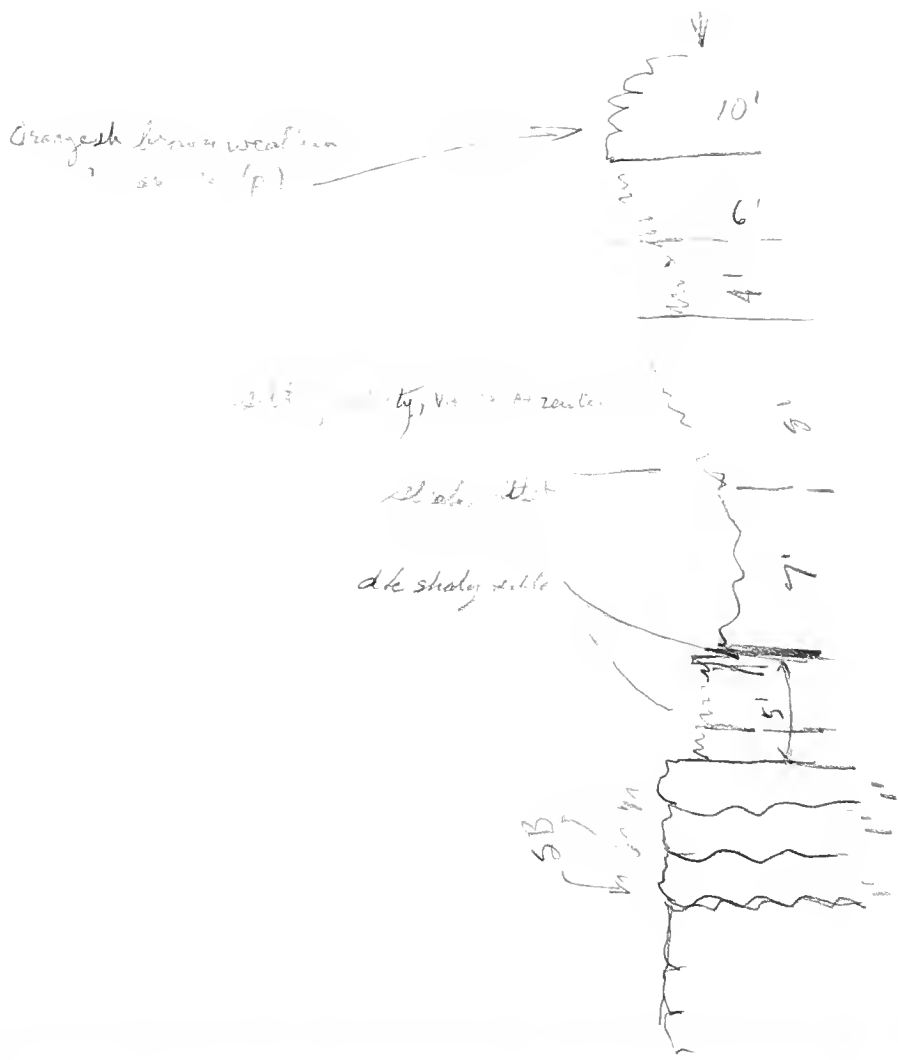
1" to 1' calc.

calc. arenite



6/4/98

28b) Photo higher on hill - next outcrop  
 toward Glendale Jackson County (near west side of county)





(38)

6/7/98

(29) Big Bottom <sup>Tennessee</sup> of Holland & Pitzhowsky 1997  
1 photo near center of shallow syncline  
On TN 53, northeast of Gainesboro.



6/7/98

(30)

Mt. Celina. East of Celina and

0.5 miles E of Celina, on TN 53

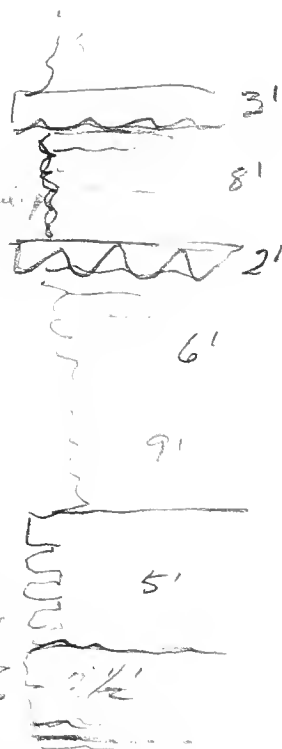
1 photo  
1 out  
Ramp. int.1 photo  
2nd  
Ramp. int.

Ls.

X-bedded calcarenite

p/g interspersed with fine-grained  
-bedded calcarenite, soft, salt deformation  
at base.

calc. sheet of 1' thick

Scler.  
Ls. int.Ls, coarse gr. p/g - Congl.  
with dk shaly interbeds

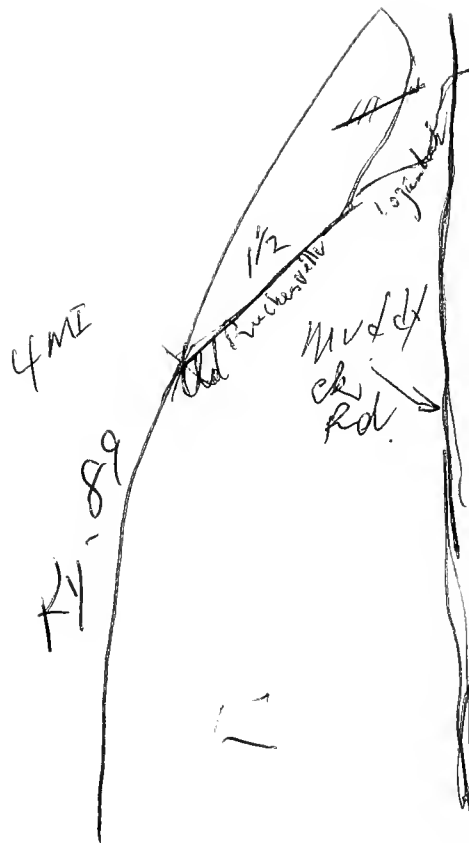




HO



(41)



(42)

6/8/98 Logan Lick Road

(31) Left Georgetown motel (at exit 129) +  
to Interstate 75S to Exit 96 to Winchester;  
from Winchester we went 4 miles  
on Ky 89 + met a Y in the road;  
took Old Ruckersville Rd to next Y where we  
took Logan Lick Rd; wound down  
+ around + // to railroad track encountered a  
ca 10 ft section - covered w. vegetation.  
Coarse-grained crinoidal packstone/  
grainstone; beds are channelled  
4'-5' across + 8" deep; some general  
x-bedding on this kind of scale

Higher beds - calcarenitic, sandy  
laminated; some beds with some  
brachs. At RR track beyond underpass

Coll.  
6/8/98 A. Clays Ferry Fm. - see diagram  
on page 35 of Weir + Greene, USGS Bull  
1224-B  
3 up in section

(Had car checked for leaking?  
differential oil).



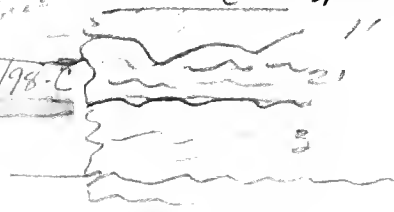
6/7/98 - Delapian loc. 171, 178., PP768 (B-E)

(32) Collection 6/9/98-A - lower part Millersburg Mbr.

SE side of road cut between Toyota Plant gates  
Ky 620. (5344)

micaceous sp, med to fine, & coarse  
laminated sh., spj

Collect. 6/9/98-C



Silt/shale, fine med

cut + 1/2 d. channels

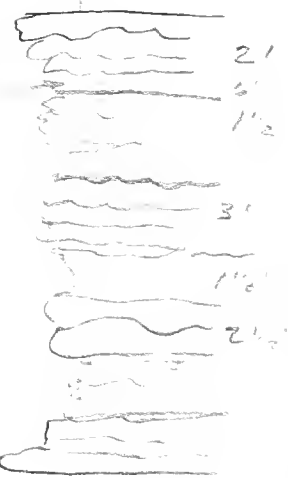
not a lot of sand, some fine

shaly sh., med



Coarse micaceous (sp) & large, brown, cut  
fossils, wavy beds, with  
1/2" - 2" ... parting

Coll. 6/7/98 E



fine calcareous sh. ...



4:30pm

Did not stop - Shift change at Toyota Plant  
road cut NW of Toyota Gate 7, west  
side of road. - mostly later, wavy bedded  
calcareous P/G; v. little silty shale





(H4)

6/9/98

33 Photos. road cut S & W of Gate 7  
shy 3/4 mile  
& Toyota Plant

(Mile 11)

\* Ls, calcareous, sandy (clastic, fossiliferous)

X-bedded sandstone

200' sandstone, sandy, calcareous, thin.

little fossiliferous

2" shale, calcareous, sandy -



Rd 2906 - more shale in sequence

\* The outcrops on <sup>Ky 620</sup> Rd 2906 were adjacent  
to large Toyota <sup>plant</sup> & it was all marked  
"No Parking."



6/10/98

to Oxford East on Ky 620 from Motel.  
riding 45 460, about 100 yards east of Junction  
with I-75, east of Georgetown.

LS, cherty p/g in 2" 8" beds

Common fossils, irregular nod.  
bedded.

LS. p/g and calcareous, 2" 4" beds,

nodular. LS on west

1 Photo

Is this the Stamping Ground Mbr of  
Lexington ls. large stromatopora  
heads in 2 or 3 beds — 2-3 ft in  
length. Bry

Coll. 6/10/98 A. At base of lower stromat.  
bed

See Creasman, E.R. 1973 p. 38-39  
(see also 151 Georgetown A, plate 2)

Returned on Ky 460  
to Stop 1.

(34)

Coll. 6/10/98 A



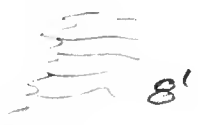


6/10/98

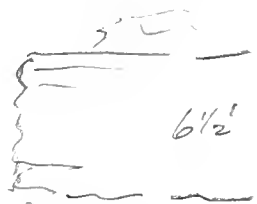
(35) Ky 460 in Georgetown  
at Georgetown water tower at top of  
hill. 1 photo. W. edge of Georgetown

Stop 1.

Ls. med/fine, occasional coarse lenses,  
thin silty partings



Ls. v.c. calcarenite, X bedded, + sheet sand,  
v. little siltst, g./p  
some calcareous pebbles to some burrows



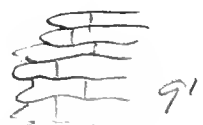
Ls. med to fine calcarenite, p/g  
ripples  
silty brown mud beds with v. thin  
siltst partings



Stop 2 (36)

US 460 just beyond Ky 227 intersection  
1 photo. Higher in section rel. to stop 1

Ls. lt gray to brownish tan, 3"-6" beds,  
med/coarse calcarenite, ripple bedded, a few  
gastropods, almost a beach



Ls. med/dk gray, 1"-2" beds, silty interbeds,  
rip-ey clasts of calcarenite, calcarenite,





49

*Sphenes*

A hand-drawn sketch of a geological profile. It shows several horizontal layers of varying thickness. The top layer is labeled '5'' with a vertical line and an arrow pointing to it. The bottom layer is labeled '3 1/2'' with a vertical line and an arrow pointing to it. There are some scribbles and additional lines indicating the profile's shape.

A hand-drawn sketch of a book cover. The cover is rectangular with a decorative border. The dimensions are labeled as follows: the top edge is 10", the right edge is 7 1/2", and the bottom edge is 1". The word "Cover" is written at the bottom right.

Crab Apple

Irregular bedding below —

Flora X

Covered





6/10/98 - Stop along Ky 1262,  $\frac{1}{2}$  mile southeast of  
 (38) junction with Ky 1900

one place

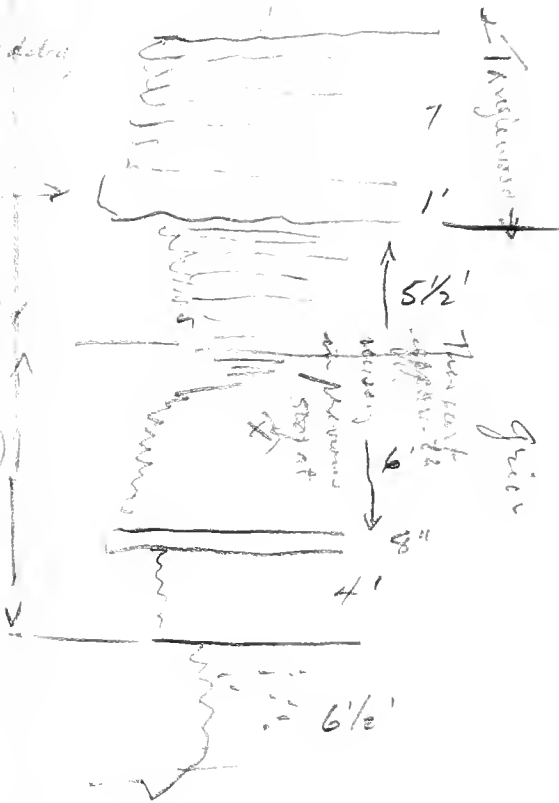
beds to (g) 2-4' ripple bedded

calcareous (g) nodules

calcareous g/p and some interbedded  
 siltst.

ls ripple bedded calcarenites p/g

calcareous siltst. a-s  
 thin siltst. siltst. and  
 fine calc.









6/10/98

(50)

6/15/98 - day 100

Tar ...

med/ Altered ripple marks  
Coarse calcareous, well bedded & bedded

Siltstone - thin ...

Siltstone ...

Calcareous ...

SB? (photo) ...

1" Siltstone / limestone





6/11/98. East of Frankfort near Fork of (51)  
Elkhorn

In 2 mi. N. of Fork of Elkhorn road a few mi. N.

3. Georgetown, W. (40)

6-7'

Ls., ... 6-7'

holds up to ... here

3'

Siltstone, ... light ...  
... weathering

13'

Ls., ... 8" ...

Photo

Ls., ... 1/9

inter ...

Ls., p. ... silty; and

... well bedded.

9'

Strom?

Ls., ...

2'

Strom?

3'

Inter ... p.

3'

3 1/2'

steep & bare





6-11-98

(52)

Frankfort, Ky (western side) just north of junction of  
US 127 and Ky 1005 (41) ↓ Top measured down

Ls. mar. ...

L. ...

Calcareous p/g

3" clay/s

Phos

Ls. ...

fine to p/g

Siltst, (silicified) + Calcareous ...  
and 3-4" beds ...

Ls, ... large, calcareous, ...  
and ...

siltst

Calcareous p/g, X beds from top to  
base in 10-12' bed

Thin ...  
2-4" beds dk gray

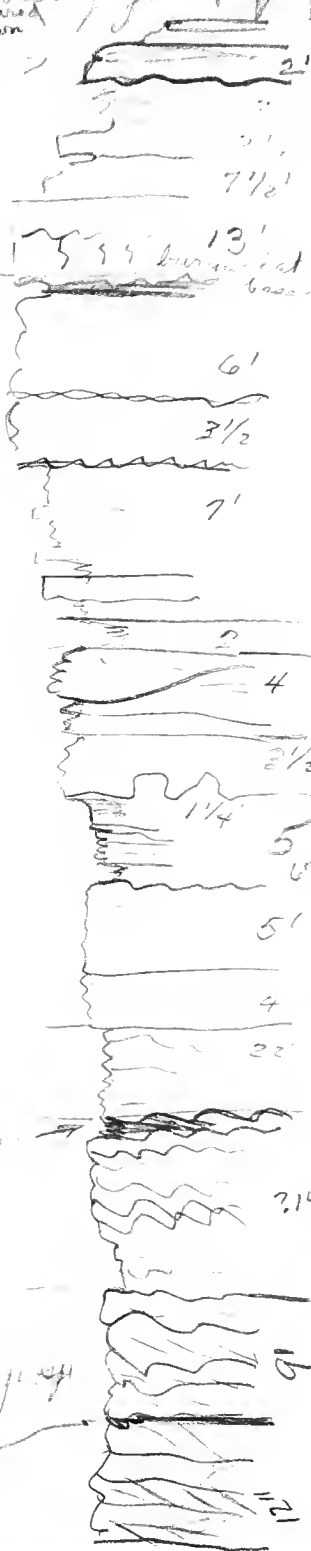
2-4" gray siltst

Calcareous p/g ...

small ... features

pinkish large rutile, "chaotic" X beds, ...

1" dk gray shale/siltst break





6/11/98 cont'd

53

continued from p 52

siltst

0'-8"

pyrite on phos  
surfaces

X-bedded coarse calcarenite

conglomerate, fine to medium

coarse sandstone, medium to coarse

coarse

P. ...

ripple bedded calcarenite

→ ...

siltst

siltst calcarenite + calc

moderately bedded

fine, coarse calcarenite p/g, X-bedded

large common

med, calcarenite

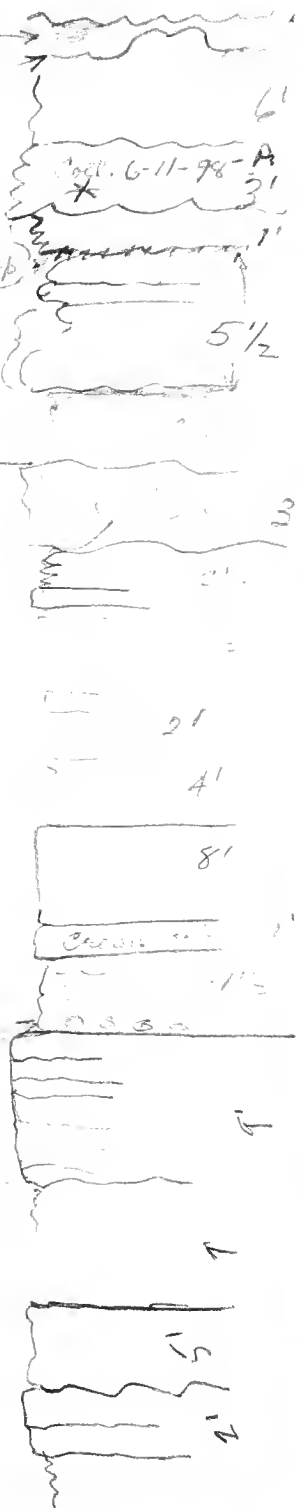
brist at base

brist at base

6"-2' ...

plate

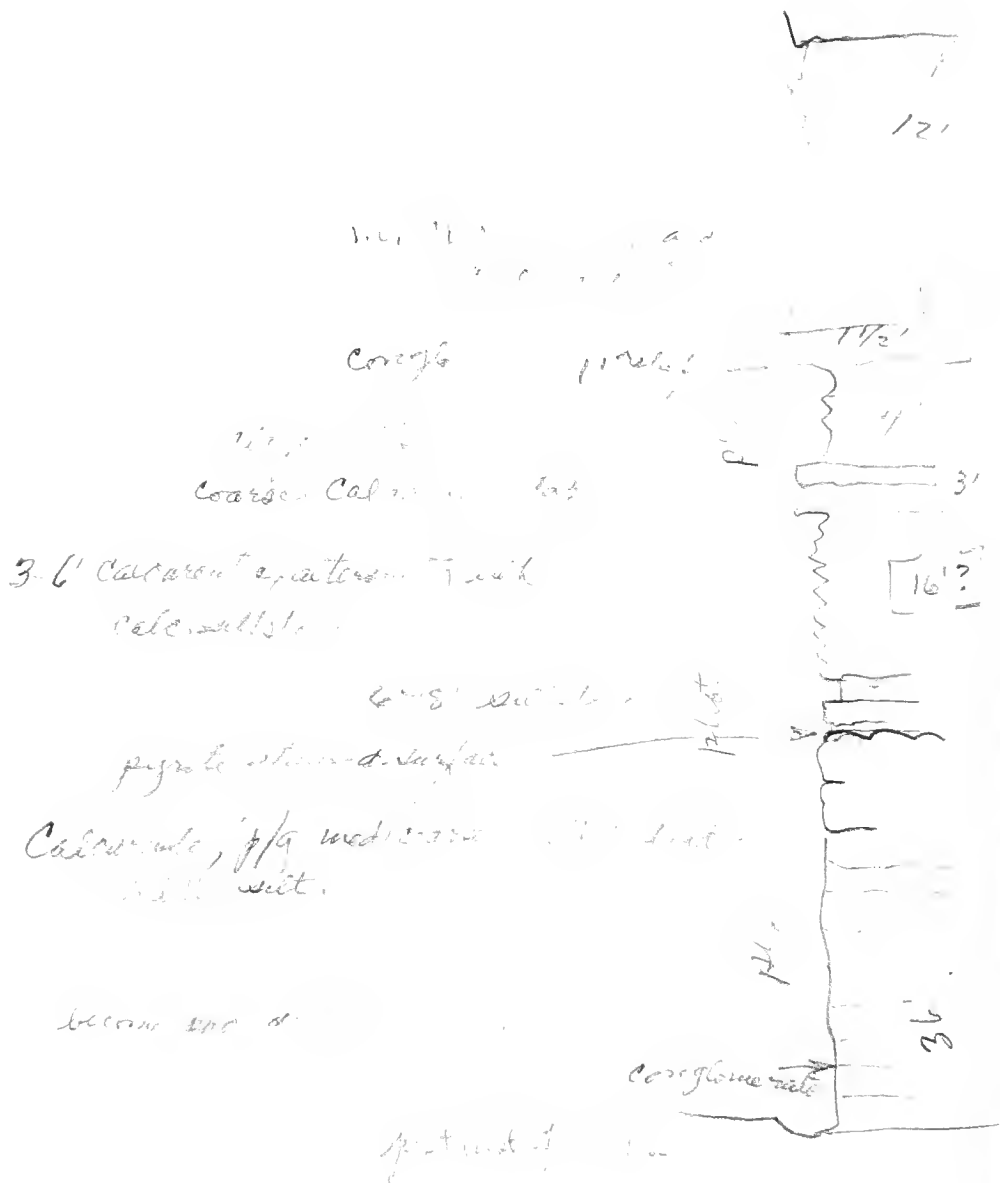
large 2'-4'  
large  
white





6/11/98.

Cont. sec. # 53





6/11/78 - West side of Kenton River, north of

(53)

(42) Frankfort on US 421 (Bald Knob Rd), just north of fancy intersection with US 60 or US 127.

2 photo group part, 1st and 2nd

X-bedded

ep/s ripple bed, m

10' thick  
Lower 5' thick

alternating salt & calc. and thin  
calcareous dolomite

ripple bed calcareous

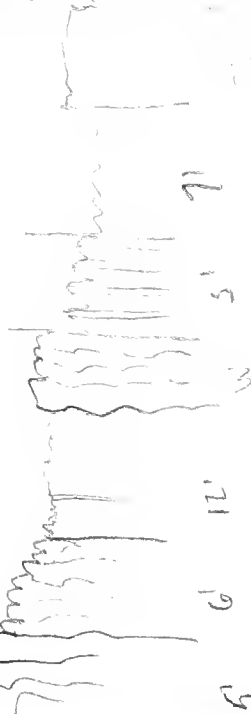
4' calc. siltstone & siltstone and  
silty mudstone

2-4" calcareous + 2" siltstone

Calcareous, massive ripple bed

continued p. 54 bench

5 1/2'







6/11/98

thin - chert a. b.  
thin - photo p  
w. r. of d. carbon.

lime



Clay  
Calc. at bottom

Ls. calcareous, siliceous, nodular  
2'-3' alternating

lign. nodules 6"-15"

Congl. p. calcareous

calcareous, med/pig, little if any  
may be 6"-1' bed



57



6/12/98

Took I75 & then I64 East to  
Mt. Sterling. Some exposures around 2  
Mt. Sterling exits. Photo Exit ramp from  
I64 at Mt. Sterling, Exit <sup>43</sup>110 from I64. <sup>43</sup>  

---

west bound <sup>43</sup>

1 Photo - NE side of exit 110 (west bound off-ramp).

Silty, sandy bedded calcareous siltstone abundant  
large cracks, some thicker beds (6"-8") are found  
with pebbles + silt filling between - Callaway Creek Ls.  
(44) Mt. Sterling, Ky



(45)

6/12/98

(59)

(45) Southbound rd, approximately 50' bridge over  
the river. Temp on 175 C.

2 photos of fine structure  
of  
- indistinguishable from some barrens but lack of  
'fossil' structure, wavy salt-rich bands  
1' to 3' beds  
14'

0-3" dk gray & redstone  
channels with fossils (mostly brachiopods)  
concentrated  
16

very, v. arenite (p) with fossil hash rich  
bands, sharp fossil + truncation  
fossils - transported fossils (gastropods)





6/12/98

(60)

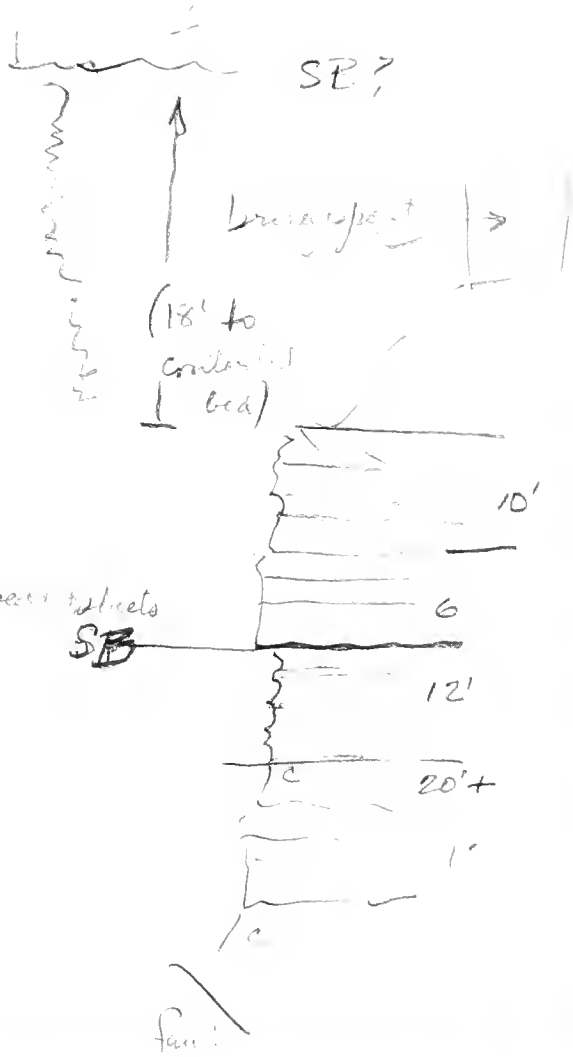
6/12/98

(46)

# Road down to Clays Ferry Campground

1 photo looking down on type Clays Ferry, gashed  
siltstone at top, (see wire screen on Clay Ferry in  
1-15 road cut.) Photo from lookout point.

Look out road down to river, - about 20' below <sup>1-15</sup> there  
there is a 2-2 1/2' bed of, colored sandy siltstone.  
(1 photo in store).



2-3" calcareous  
4-6" clayey siltstone.

ruppie - d 3 calcareous

photo

massive calca. in, & heavy siltstone

SB

shale with nodular "lenses"

silty brown calcareous

face



6/13/98

~~Farmville~~  
= Forkland

Key 37, 11

(47)

dk grey

cont. 2

SB?

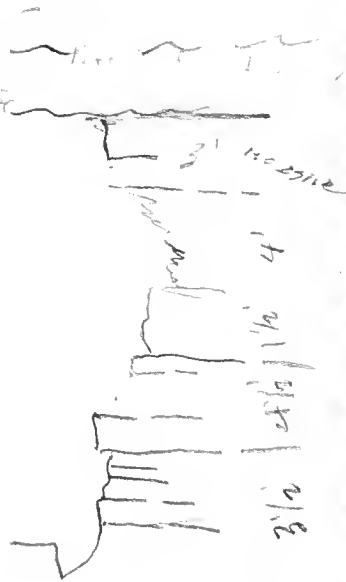
48 KY  
1105

vuggy, ripple & lenticular

Just S of  
Crawford  
Hwy

at base SB  
Laminated, dark, etc. etc.

Logans  
Silty  
Sandstone





Fourth line





KY

(6.9)

6/13/98 - Sta 55 ~ 1 mile north of Airport Road turnoff  
Lebanon / Springfield airport (50)

road, ... ..

Plots



Plots

2 near ...

Silty ... .., 1' - 1 1/2' beds, with  
silty ... .. breaks, wavy.  
... ..



Turn to Springfield - (51) Key 528.

Plot ... .. with ...





Shade ... 3 1/4 mile ...

(52)

2-4" beds of ss/ls ...  
 5-1' beds, sheet beds

lt gray green ... siltstone

- plate sheet ...

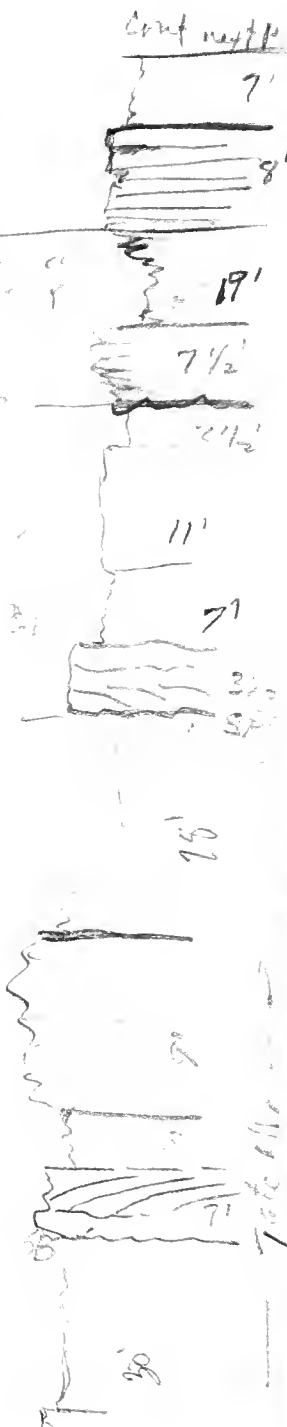
siltstone, calc ...

... siltstone ...

... siltstone ...

... siltstone ...

... lt gray ...





(contd.)

Dolomite X-bedded, wavy,

lowest bed (12') no ...

Siltstone, massive,



Siltstone, dolomite, sandy, burrowed

Stromatolite bed! 2 1/2' thick

fine ripple down!!



... ..

burrowed

ripple bed ...



2 1/4' dolomite calcarenite + ...

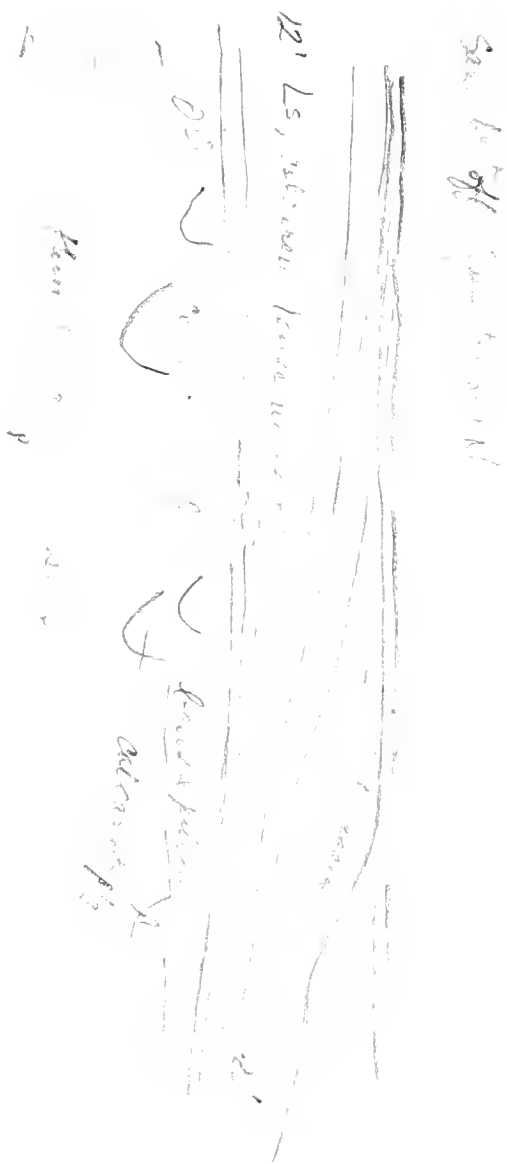
lt. grayish green

Siltstone ...



Took US 62 at Toyota Plant (11)  
to Cynthia's

(53)





6/14/98. Scouted on US 36 northwest of (67)  
Cynthiana for section in Prof Paper 768  
plate 3. Took Ky 1743 off US 36 & circled  
round back to US 36—occasional otc  
partly overgrown but nothing else.

Took US 27 north to Falmouth. hunch  
on Curry Road "green island" At one  
time, there may have been a sequence  
of cuts which showed the section, but  
there are none now.

We'd stopped  
on remnant of old highway



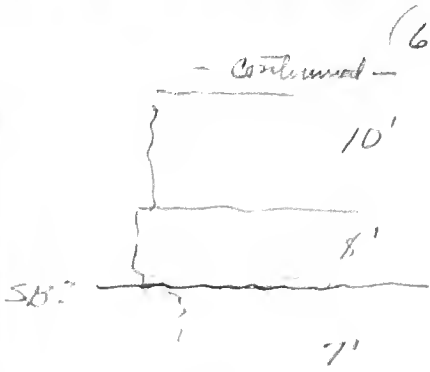






W side of hill

putting in  
see, valley <sup>marked</sup> 4' bed at base  
L side  
mineral silt



ripple bedded siltstone  
iron stained, fossil  
lenses (gravel, etc.)



at siltstone, in clayey siltstone  
2-3 3-Cont. silt beds



Siltstone & silt



gravelly siltstone



well siltstone + clayey siltstone  
a few gravel  
2" silt beds



ripple bedded siltstone  
not marked



Sandy brown clayey siltstone + iron stain

Clayey siltstone



cal siltstone with clayey siltstone

clayey siltstone



Continued

Slugs. alt. 1-3"  
calc. 2-3 times

C 15'

281

55

Mayville, Ky.

56

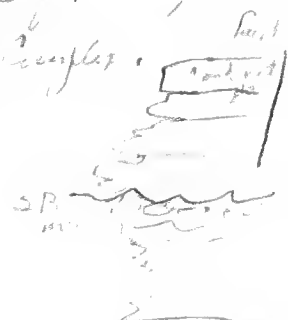
 $\frac{3}{4}$ 

Shopping center -  
 married wall behind buildings



9/11

Paris by 6/15/98 15.6° N, 100° W "by-pass" Paris, at  
57 marks compass and YMEA occur together.



shale, micaceous, with ...  
... X-bedded

calc. lit 0-4"  
p/g with fine ... X-bedded ...  
... 4-5'

This is the ...  
... Paris ...



4-5'



Photo

Stetson (distance ?) 3'-4'

Coarse calc. ... 1'-3' ...  
ripple bedded, fairly massive, 4/5  
limestone? nodules w/ "pebbles"





1970

10 3 200'

1-1/2 day

13'

Significant change in little  $\frac{21}{4}$

plus  
minus

1-2 in. ...  
... with ...

71

This ...  
... 11 by ...



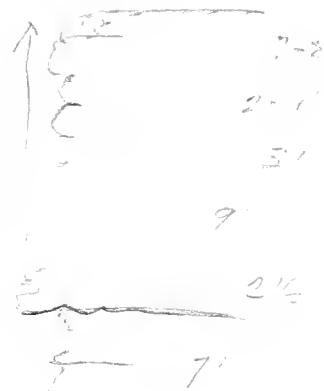
6/15/98. Two Road cuts on US. 68 (Southern) road by  
 section of highway about 20 miles S of  
 Major

58

Southern Kentucky

Kentucky

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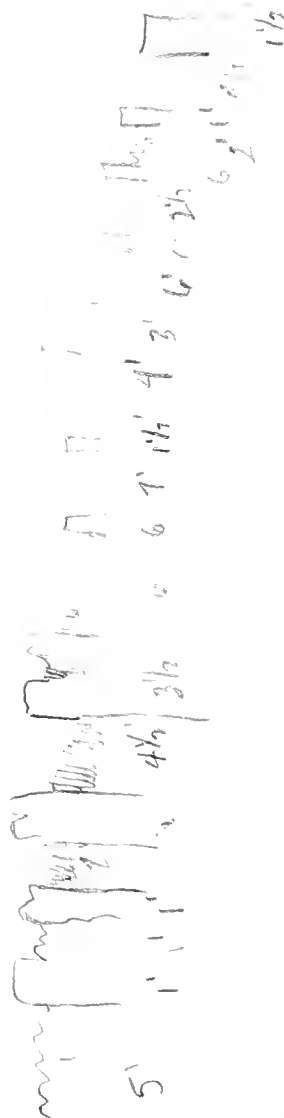
6  
10/15/98  
U.S. 68

adjacent to  
Section of Blue Hills Battle Field  
(1788)

17  
P. M. King

59

photo



3-4 mpph, etc. or calc. 'p/g, a. u.  
1-2 section

6/15/98 contd. We continued north on  
US 68 looking at cuts - some grassed  
over - to Mayaville. At top of hill to  
Kroger & WalMart.

From Mayaville to I275 near  
Covington on Ky 9. A good highway  
with numerous extensive, long  
sections. Lot of shale in sections.

I275 to motel on Nine Mile Road.

(Lunch at Blue Hicks Battlefied  
State Park - Daniel Boone et al  
memorial to commemorate the  
1782 battle where 102? men lost their  
lives & the Amer. were defeated by  
the English & Indians.

6/16/98

(75)

(25)

4/1/98

U.S. 32 east

(Started day by leaving film at Meijer's for printing - 2 rolls)

Then picked up  
to relocate 1995 field stops at  
(35) in 1995 field book

The ramp exposure has small trees growing on it but the strat. section is still discernible. Filager Rd section<sup>(37)</sup> is rapidly being overgrown as is the "Batavia Rd" section where there is presently extensive road repaving taking place.

(MacDonalds; State Police; & various other quick food restaurants (Aolies, Burger King, at exit ramp at top of hill (& section))





(76)

6/16/98 U.S. 32. Stop (39) in 1995 field trip  
not long road cut on east side of valley  
Did & Siln. 5 \* photos  
check?

Stone Rd (N/S) at top of hill

Stop 40, <sup>1995 field trip</sup> on ~~US~~ OH 41 at southern end  
of bridge & at Oliver Rd. Allen township  
line

Stop 41 (1995 field trip). 2 photos

Just north ~~west~~ of Stop 42 (1995 field trip).  
1 photo west side of road

300 yd. north of previous photo. 1 photo

Stop 42, west side of road. 1 photo

Stop 43, <sup>road cut</sup> west side of Whiteoak Creek.  
4 photos

contd in Book 2.



Wilson, C.W., 1949, Pre-Chattanooga stratigraphy of central  
Tennessee; Tennessee Division of Geol. Bull. 56, 406 pp.  
do, 1962, Stratigraphy and geologic history of  
Middle Ord. rocks of central Tennessee,  
Geol. Soc. Amer. Bull. v. 73, 481-504.

Wilson, Charles W. Jr. 1990. Pre-Chattanooga  
Strat. in Central Tennessee 1990  
2nd ed. State of Tennessee, Dept. of  
Conservation, Division of Geology  
Bull 56. 415 p.

Expenditures:

Please return to: T.R.P. Ross, Dept. of Biology  
Western Washington University, Bellingham  
WA 98225.

**RULES OF PUNCTUATION\***

**Use Of The Period**

The period (.) is used after a declarative or an imperative sentence, after courteous requests, and after abbreviations and initials.

The order was shipped yesterday.

(declarative)

Ship the order immediately: (imperative)  
Will you send me a copy of your latest bulletin.

**Use Of The Comma**

The comma (,) is used after an adverbial dependent clause when the dependent clause precedes the main clause. When the dependent clause does not begin the sentence, the comma is usually unnecessary.

After the director had read the minutes of the meeting, he called for the financial report.

The director called for the financial report after he had read the minutes of the meeting.

The comma is also used after a participial phrase or an absolute phrase at the beginning of a sentence, after an introductory infinitive phrase, and to set off parenthetical expressions, whether words, phrases, or clauses.

**Use Of The Semicolon**

The semicolon (;) is used to show a stronger separation between the parts of a sentence than does a comma. In most writing, however, the use of the semicolon should be avoided because it is generally too stiff and formal. If you use a great many semicolons, the chances are that you are either using them incorrectly, or you are writing sentences that are too long. Semicolons produce rather involved sentence patterns. Use them sparingly.

1. The semicolon is used to separate independent co-ordinate clauses closely connected in meaning when no co-ordinate conjunction is used.

**Use Of The Colon**  
The colon (:) indicates the strongest possible break within a sentence.

1. The colon is used before a list of items or details, before an appositive phrase or clause, and after the salutation of a business letter.

Please send out the following items:  
No. 378, No. 315, and No. 370.

**Use Of Parentheses**

The customer is always right.  
Dear Mr. Roe: Gentlemen:

**Use Of Parentheses**

Parentheses ( ) are used to set off words, phrases, clauses, or sentences which are used by way of explanation, translation, or comment. Also use to enclose a number, letter, or symbol when used as an appositive.

His appointment (which will be announced next week) will be a surprise to many.  
She ordered twelve (12) night stands for the hotel.

**Use Of The Dash**

The dash (—) is used to indicate an abrupt change of ideas, but should be used sparingly. The dash may also be used to indicate a summarizing thought or an afterthought added to the end of the sentence, and to set off a word or phrase repeated for emphasis.

**Use Of The Question Mark**

The question mark (?) is used after all interrogative sentences that ask direct questions.

**Use Of The Exclamation Mark**

The exclamation mark (!) is used after all exclamatory sentences—sentences that express surprise, emotion, or deep feeling. Also use after interjections or after statements which are commands or which imply need for immediate action.

Your answer was hard to believe!  
Hurry! Send your order now!

**Quotations**

1. Quotation marks (" ") are used to enclose a direct quotation. Each part of an interrupted quotation begins and ends with quotation marks.

2. Quotation marks are used to enclose the names of songs, titles of poems, and other titles of magazine articles, chapters of books, or books, magazines, operas, and any other works of art long enough to appear in book form. Underlining signifies italics for printing.

The New Yorker includes a section entitled "The Talk Of The Town."

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